

CLAIMS

1. A Laser Scanning Microscope with a non-descanned detection and/or observation beam path, illumination and detection beam paths and a direction of detection, the Laser Scanning Microscope comprising:

a beam splitter positioned for separation of the illumination and detection beam paths;

at least one optical arrangement in the direction of detection for regular transmission of a detected light; and

a second optical arrangement between the beam splitter and the optical arrangement for reducing the diameter of a bundle of a beam to be imaged.

2. The Laser Scanning Microscope according to claim 1, wherein the second optical arrangement is a convex lens.

3. The Laser Scanning Microscope according to claim 1, wherein the second optical arrangement is a diffractive optical element (DOE).

4. The Laser Scanning Microscope according to claim 1, wherein the beam splitter is contained within a housing, the second optical arrangement being mounted immediately at the beam splitter housing in the direction of the detection.

5. The Laser Scanning Microscope according to claim 4, wherein the second optical arrangement is integrated in the housing of the beam splitter.

6. The Laser Scanning Microscope according to claim 1, wherein the second optical arrangement is replaceable or can be plugged in.

7. The Laser Scanning Microscope according to claim 1, wherein a second lens is provided on another deflecting element or is integrated in the deflecting element, singly or in combination with the second element at the beam splitter.

8. The Laser Scanning Microscope according to claim 1, wherein the second optical arrangement comprises a tilted mirror in a deflecting element in the form of a convex or concave mirror.